DETAILED ACTION

Status of Claims

Claims 1-11 are pending, wherein the elected claims 1-5 are presented for examination and claims 6-11 are withdrawn.

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5, drawn to a weldable component of structural steel.

Group II, claim(s) 6-11, drawn to a method for manufacturing a weldable steel component.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The technical feature common to both groups such as a weldable steel component with the composition and structure described in claim 1 is taught by WO 96/22396. Since the compositional and structural limitations fail to define a contribution over WO 96/22396 they fail to constitute a special technical feature and hence there is a lack of unity among the groups.

3. In a letter received by the office filed on May 23, 2008, a provisional election was made without traverse to prosecute the invention of group I, claims 1-5. Claims 6-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vander Voort (US 4171233) or Bhadeshia (WO 96/22396).

In US 4171233 issued to Vander Voort, Vander Voort discloses a steel with a chemical composition comprising, by weight (see Table in Summary of the Invention section):

$0.3\% \leq C \leq 0.8\%$

$0\% \leq Si \leq 2.0\%$

$0\% \leq Mn \leq 2.0\%$

$0\% \leq Ni \leq 4.0\%$

$0\% \leq Cr \leq 3.0\%$

$0\% \leq Mo \leq 1.5\%$

$0\% \leq W \leq 1.5\%$

$0.0005\% \leq B \leq .012\%$

$0\% \leq Al \leq 0.10\%$

$0\% \leq V \leq 1\%$

$0\% \leq Nb \leq 0.1\%$

$0\% \leq S \leq 0.025\%$

$$0\% \leq Ti \leq 0.5\%$$

It has been well settled in many court decisions that when a claimed range of an element in a composition is either inside, overlapped or close to the range of the same element in a prior art composition, a *prima facie* case of obviousness is established since it would have been obvious to one having ordinary skill in the art to construct a composition comprising said element having a concentration selected within the disclosed range. In the instant case, Voort's steel composition overlaps the claimed steel composition. MPEP 2144.05 I.

Vander Voort's steel is described as having high hardenability, high hardness and good toughness which are characteristic of a structural steel.

Vander Voort's steel is austenitized, cooled, and is single or double tempered at about 300-400°F, which would result in a martensitic microstructure. In Table VIII, wherein examples of the properties of the steel are provided, the amount of residual austenite ranges from 2.6-17 %. The disclosed microstructure and composition allow for the weldability of the disclosed steel (see col. 5 lines 29-56 and Table VIII).

With regards to equations found in claims 1-5, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357,553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. In re Austin, et. al., 149 USPQ 685,688. In the

instant case, since the concentration of each element in Voort overlaps the claimed concentration of the corresponding element, the claimed equations would have been expected to be met in Voort.

In WO 96/22396 issued to Bhadeshia, Bhadeshia discloses a weldable structural steel with a chemical composition comprising, by weight (see p. 6 first full paragraph, p. 11 last paragraph, p. 8 Table A and paragraph following and p. 4 paragraphs 2-4):

$0.05\% \leq C \leq 0.50\%$

$0.50\% \leq Al \text{ and/or } Si \leq 3.0\%$

$0.05\% \leq Mn \leq 2.5\%$

$0\% \leq Ni \leq 3.0\%$

$0.25\% \leq Cr \leq 2.5\%$

$0\% \leq Cu \leq 3.0\%$

$0\% \leq Mo \leq 1.00\%$

$0\% \leq W \leq 1.0\%$

$0\% \leq B \leq .0050\%$

$0\% \leq V \leq 0.50\%$

$0\% \leq S \leq 0.025\%$

$0\% \leq Ti \leq 0.10\%$

Within the ranges, variations may be made depending on the hardness, ductility, etc. required.

It has been well settled in many court decisions that when a claimed range of an element in a composition is either inside, overlapped or close to the range of the same

element in a prior art composition, a *prima facie* case of obviousness is established since it would have been obvious to one having ordinary skill in the art to construct a composition comprising said element having a concentration selected within the disclosed range. In the instant case, Bhadeshia's steel composition overlaps the claimed steel composition. MPEP 2144.05 I.

With regards to the microstructure of the steel, Bhadeshia discloses a martensitic-bainitic microstructure with retained austenite (see p. 7 fifth paragraph, p. 9 second full paragraph and claim 1).

With regards to equations found in claims 1-5, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. In re Austin, et al., 149 USPQ 685,688. In the instant case, since the concentration of each element in Bhadeshia overlaps the claimed concentration of the corresponding element, the claimed equations would have been expected to be met in Bhadeshia.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE CHEN whose telephone number is

(571)270-3590. The examiner can normally be reached on Monday-Friday 8:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

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